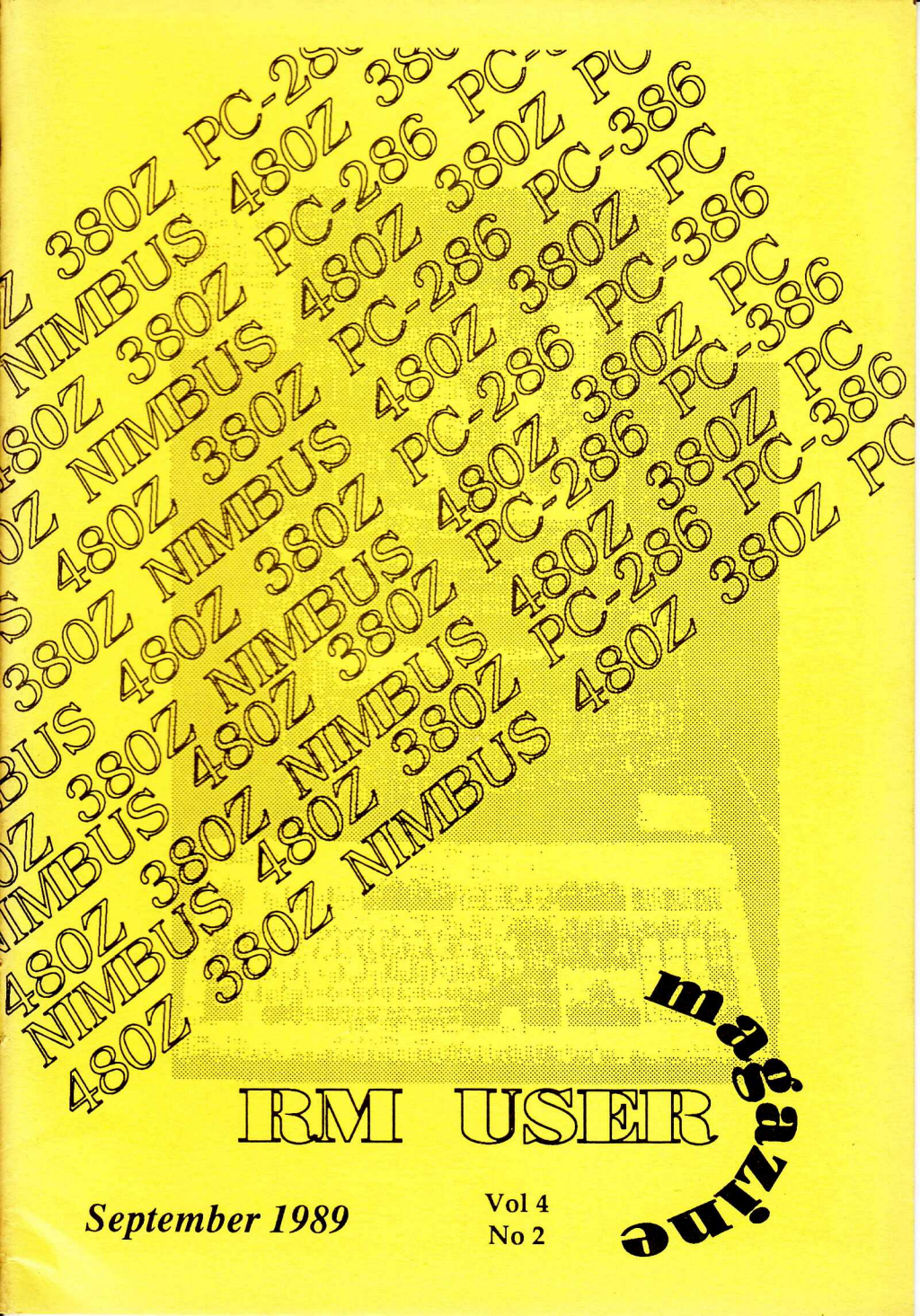
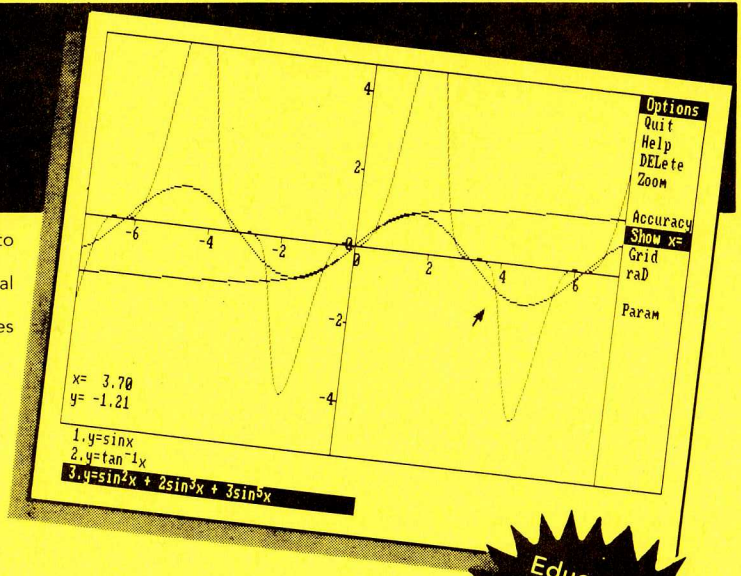

380Z PC-286 PC-386
NIMBUS 480Z
380Z PC-286 PC-386
NIMBUS 480Z
380Z PC-286 PC-386
NIMBUS 480Z

Omnigraph
– the graph processor



Omnigraph is a graph processor which is exceptionally easy to use yet incredibly powerful at the same time. *Omnigraph* allows you to enter the equations of graphs using ordinary mathematical notation; to plot graphs to the accuracy you choose; to perform transformations on graphs and other shapes; to graph derivatives and integrals; to solve differential equations; to construct graphical diagrams – and allows a host of other graphical activities.

Equations are entered into *Omnigraph* just as you would write them. Just type in equations like:

$$y = x^2 - 2x + 3 \quad \text{or} \quad r = e^{\pi\theta} \quad \text{or} \quad y = \pm\sqrt{x}$$

You can build up demonstrations step by step, and then display them later – and your students can see your handiwork step by step as well.

- User interface exceptionally easy to use.
- Useful at all levels of graphical work.
- Use a very wide range of functions.
- **Zoom in** on any point on the screen.
- Enter equations in Cartesian *(x,y)* form; in polar *(r, θ)* form, or in parametric form.
- Full set of transformations can be applied to any curve – or to the whole screen.
- Show graphs of gradients and area under a curve.
- Show the 'compass point' solution of a differential equation, and solution curves.

Educational Technology Award Winner 1988

SPA

Nimbus, IBM £29 (+ VAT); Nimbus network, IBM site licence £79 (+ VAT).

PO Box 59, Leamington Spa, Warwickshire CV31 3QA ☎ (0926) 422959

HELP-LINE

The User Group contains a great body of expertise amongst its members and the help-line exists to act as a channel for spreading knowledge and especially answers to your problems.

Remember, your problems are also our problems!

If you are in difficulty, please feel free to **ring anybody on the Committee** (see inside back cover). We may not, individually, know the answers, but we hope that we may know someone who knows someone who.....!

Remember, the Group is on **TELECOM GOLD 72:MAG 90380**

Do feel free to write either to the Editor or the Secretary. This may be especially useful if the problem is complicated and non-urgent.

Advertising in the Magazine

Full- and half-page advertisements can be placed in the Magazine and details can be obtained from the Advertising Manager (address on Committee Page at back. We also take classified adds and members may place free adds for surplus kit in Micro-Mart, provided a valid membership number is quoted with the add.

Rates

Back Cover: £75 Inside Cover: £60 Full Page: £50

Half-page: £30 Classified: £5 / 100 words

These rates assume black-on-white, camera-ready copy. Please **avoid** dot-matrix output. Typesetting is charged at cost and is **additional** to the above rates.

The deadline for the next issue is October 6th 1989
The deadline for the following issue is November 10th 1989

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Editorial

I had an interesting phone call recently from a member at one of our universities. He explained that for some years they had been using a good old 380Z for control purposes. It had been replaced by a VX, which was performing well. I then expected him to say that he had been referred by RM in connection with selling Old Faithful. Not a bit of it! He wanted to turn it into a word-processor (it had double density 8" disk drives and an 80 char screen). RM had told him that they couldn't sell him any suitable software and had referred him to the User Group. I gave him some contact points, including SPA, John Ward at Oxford (see older RM Users when he was Software Librarian) and remembered after putting down the phone that Oxfordshire's Write will run happily on the 380Z and the text files from Write will transfer to the 480Z and the Nimbus version of Write. I mention this because in the Editorial of the Public Domain Software Library's newsletter, Rod Smith warns people off from buying second-hand RM machines as, he claims, there is no support or software for them. If you belong to that Library, as some members do, write and tell him different!

Deliveries of RM's new machines should be improving soon after a six-week delay enforced by an unfortunate accident in the manufacturing process (not RM's fault at all).

You have all received details about the conference. Please send your bookings to Graham Townsend as quickly as possible. Popular courses fill up rapidly and we have an overall limit on conference numbers which was reached early on last year.

The next issue of RM User should be out about Conference time. I am anxious for articles, comments, tips, letters, request for help on all subjects related to RM kit, old and new. See page 41 for details and let me have your material as soon as you can. See also page 39 for ideas for articles which are for you to respond to - not what Ken Maynard is going to write over the next few issues! I've made this plea before, but I'd be pleased to hear from anybody using Microsoft Works.

Sheila Maynard, our Software Library, tells me that another volume is in preparation and full details will be in the next magazine. Please send her any contributions you may have, or information about public domain software that runs on the Nimbus range, especially under IBM Mode Software for the PC-186.

Finally, "1066", "Palestine in the First Century" and "French Revolution" are now available from *Appian Way Software* for BBC BASIC86 on the Nimbus PC186, having been versioned by Ken Maynard.

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Letters

The Star Printer and the Parallel Port - part 2

Some months ago I described a problem we had met when using a Star LC24-10 printer connected to the Low-Cost Parallel Port on a Nimbus PC186. The symptoms were that the computer would hang up after about 100 characters had been printed, and would then have to be reset to resume work.

The solution (?) which I reported at the time was to make sure that the port software on the Nimbus was the latest version of PARALLEL.SYS, which is v1.0 G. This cleared up the trouble, and everyone was happy. (But why are RM still shipping version 1.0 E ?) Now read on .....

Last week I converted an existing Nimbus PC186 / LC24-10 combination from parallel piconet to low-cost parallel, in order to standardise the parallel ports throughout the School. Naturally I installed version 1.0 G of PARALLEL.SYS on the Nimbus, but when tested, the same symptoms appeared: the computer hung up after printing about a hundred characters.

Fortunately, I just happened to have a brand-new LC24-10 printer handy, and I tried it. (Having tried pretty well everything else.) It worked. So I then looked at the ROMs in the two printers. The older printer had a version 1.1 ROM, but the new one had version 1.3. To make assurance doubly sure, I put the new ROM in the old printer, and it then worked properly.

So I phoned Star, who said "Oh, yes, there's a bug in all the versions of the LC24-10 firmware below version 1.3: didn't you know?".

The moral: if you're going to connect an LC24-10 printer to the low-cost printer port on a Nimbus PC186, make sure that the printer is fitted with the 1.3 ROM. If you have an earlier version of the ROM, send it to David Taylor at Star Micronics in Ealing and he will re-program it for you.

Jake Loddington,
Queen Elizabeth's Grammar School, Blackburn

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City of London School,
Queen Victoria Street,
LONDON EC4V 3AI

Dear Sir,

I'm sorry to write to you like this, but I seem to have come up against an impasse.

Recently I've been trying to get through to the RM Bulletin Board. Imust have spent over 10 hours trying. This includes at least 2 hours (including waiting time) on the phone to Technical Support. The final comment last Friday, after a 30 minute long-distance phone call, was to the effect that when I get through to the Bulletin Board I should put a notice on the Board that I could not get through to the Board. I still haven't got through.

The equipment that I am using is:
Nimbus PC-186
Contact V2.02 software (purchased from RM)
Modem: DTI Schools DSL 2123AD Autodialling Modem

My RMTECH.XOS profile:

modem	dti_schools
port	aux 31
display	ttns
dial_type	tone
set_speed	V.23
set_bits	8n
logon	
autotype	np^m
dial	90865796431
go	

The result of the profile being:

&DIS
&+++
&+++
&DLG,90865796431
&WAT
&NAT After a long interval

Please note, the yellow lights on the modem did not flicker at all.

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Tech Support suggested last Friday that I dial manually. The result of this being:

```
&+++np
&+++90865796431
&DLG,90865706431
&WAT
&NAT
```

Please note that the yellow lights on the modem didn't flicker at all.

As you will realise, I find this whole thing frustrating, especially as I would have thought that I have standard hardware and software.

Using this PRESTEL profile:

```
modem       dti_schools
port        aux 31
display     prestel
dial_type   tone
set_speed   V.23
set_bits    7e
logon
dial        9618
lookfor     --------
autotype    4815809071^m
lookfor     ----
go
```

This sequence activates the moden in that the yellow lights flicker and the DIALCOM banner appears, but then the system hands and does not autotype our identification number. Could you please indicate where I am going wrong for as far as I can see we are conforming to the example in the Contact manual on page 3.4

Yours faithfully,

Peter J Butt

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MAIL CHECKER

by Martin Ellerker

This program is designed for use with the Mailbox program that can be obtained from the ITEM Team.

When Prince WilliamSchool obtained this program from the ITEM team the pupils decided that it was great fun to send messages to each other, and therefore if one pupil missed a day from school due to illness he/she would often come back to a wealth of messages which take up valuable Kbytes of disk space.

In addition to this pupils logging on to the network had to load in Mailbox just to find out if they had any mail waiting to be collected. This could take anything up to ten minutes and so wasting valuable time if there was not any mail.

So the school needed some way of telling the pupils when they did and subsequently did not have mail to be collected. Therefore saving the pupil both the time and effort of loading Mailbox everytime they logged on.

This program is designed to do just that. When logging on, a message appears to tell the user that the program is running, and then after looking in the mail directory for mailbox notes or documents for the user, the program outputs a suitable message to the screen.

The program saves the Network Manager disk space, because without the program a pupil may not realise that he/she has mail waiting to be collected and therefore using up valuable disk space unneccessarily.

The Item team can be contacted at John Ruskin Street, London SE5 0PQ
Telephone 01-735-9123.

 © RM User Group 1989

```
; MAIL CHECKER - for the RM NIMBUS Network
; Program by Martin Ellerker
; For Mr R.J.Hyde

msdos       equ   21H
disp_string equ   09H
f_first_file equ  4EH
set_buffer  equ   1AH
end_program equ   4CH
space       equ   20H

code        segment
            assume cs:code,ds:data,es:data,ss:nothing

start:      mov   ax,data                ;Make ds and es data
            mov   ds,ax                  ;pointers for reading
            mov   es,ax
            mov   dx,offset buffer       ;Produce buffer
            mov   ah,set_buffer
            int   msdos
            cld                          ;Clear direction flag
            mov   dx,offset message      ;Output message
            mov   ah,disp_string
            int   msdos

get_machine: mov  dx,offset mach_name        ;Put machine_name
            mov   ah,5EH                     ;into mach_name
            mov   al,0
            int   msdos
            mov   cx,8                   ;8 user ID letters
            mov   bx,8                   ;Start at 8 from left
transfer:   mov   dx,offset mach_name[bx]  ;Get character at bx
            cmp   dx,space               ;Is character a space
            je    next                   ;YES
            push  bx                     ;Store bx
            sub   bx,5
            mov   offset filename[bx],dx     ;Store dx in filename
            pop   bx                     ;bx equals old bx value
            inc   bx
done:       loop  transfer               ;loop until cx equals zero
            mov   cx,2
            mov   si,offset extension
            mov   di,offset filename[11]
```

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```
                rep     movsb                   ;Transfer extension
                jmp     gain_access

next:           mov     cx,1
                jmp     done

gain_access:    mov     bl,04H                  ;Gain local drive access
                mov     cx,00H
                mov     si,offset source        ;As V:
                mov     di,offset destination   ;Really \\SERVER1\POSTBOX
                mov     al,03H
                mov     ah,5FH
                int     msdos
                jc      error_1                         ;Carry set if error

find_file:      mov     dx,offset filename      ;Search for file on V:
                mov     cx,00H
                mov     ah,f_first_file
                int     msdos
                jc      find_error              ;Carry set if error
                cmp     al,12H                  ;Was file found
                je      not_there               ;NO - Jump to not_there
                mov     dx,offset mail_found            ;YES- Output mail_found
                mov     ah,disp_string
                int     msdos
                mov     dx,offset key_mess      ;Output Press a key
                mov     ah,disp_string
                int     msdos
                mov     ah,07H                          ;Wait for keypress
                int     msdos                   ;Control C does not work
                jmp     exit                    ;Jump to exit

error_1:        mov     dx,offset entry_error;Output error
                jmp     display

error_2:        mov     dx,offset cancel_error          ;Output error
                mov     ah,disp_string
                int     msdos
                jmp     exit_2

find_error:     cmp     ax,18                   ;No file found
                je      not_there
                mov     dx,offset error_code ;Output Path invalid
```

```
                jmp     display

not_there:      mov     dx,offset no_mail       ;Output No mail found
display:        mov     ah,disp_string
                int     msdos

exit:           mov     si,offset source        ;Cancel local drive
                mov     al,04H
                mov     ah,5FH
                int     msdos
                jc      error_2                 ;Carry set if error
exit_2:         mov     ah,end_program
                int     msdos                   ;Terminate Program
code            ends                            ;Code ends

data            segment
message                 db "MAIL SEARCH - for the RM NIMBUS Network.",13,10
                db "            by Martin Ellerker.",13,10,10,"$"
mail_found      db "You have mail awaiting collection.",13,10,"$"
no_mail                 db "No mail found in directory.",13,10,"$"
key_mess        db 10,"Please press a key.",13,10,"$"
entry_error     db "Local Drive / Path not attainable.",13,10,"$"
cancel_error    db "Unable to cancel Local Drive / Path.",13,10,"$"
error_code      db "Invalid Directory / File.",13,10,"$"
buffer          db 43 dup (?)
mach_name       db 16 dup (?)
source          db "v:",0
destination     db "\\SERVER1\POSTBOX",0,"stamp",0
filename        db "v:\         ",0
extension       db ".*"
data            ends

stack           segment stack
                dw 20 dup (?)
stack           ends

end             start
```


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RM and the Handicapped User

by Jo C'apek

I am a left hander which most people, including myself, would not regard as a handicap. However not only was I irked at being forced to write as a right hander but also I became irritated at how half the tools (such as screwdrivers) or implements (like scissors) which I were allowed to use naturally were obviously designed for right handers. While at college I improved my dexterity no end by losing my left thumb and therefore had to commence a frustrating and very incomplete conversion to right handedness. In fairness I was now grateful to my early teacher because at least I did not need to re-learn to write.

Very obviously my disability could not be more trivial and yet there are times when I need to stop and think before performing even the most basic task - such as doing up the right cuff button. I describe all this partly because it is within the span of most people's comprehension but also because it gave me an appreciation of the difficulties which the more severely handicapped person must face. Hopefully I might now have put blindness, cerebral palsy etc., in some perspective for you.

You can therefore understand my delight when, with the very considerable help of others, I was able to help a teacher who had been blind from birth, to work on his school's RMNet.

Anyone needing the technical details should contact me and I will gladly pass on the solution. However in brief it is based upon a AX40 station. Hanging off this he has:

a speech synthesiser for converting the screen output into a metallic but very clear voice,
a braille touchpad which simultaneously converts the screen output to Grade 1 braille,
a document reader which accepts type written material and converts it into a disk file,
a modem,
a braille printer which unfortunately sounds like a naval bombardment and
a local daisy wheel printer.

In addition I would be most grateful if those of you who work with handicapped staff could let me know how you solved some of their problems. Most urgently

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I need to find a keyboard which might be suitable for MS sufferers. All of us who are blessed with perfect health and fully functioning limbs and senses use the expression 'finger trouble' every day. Just think for a moment what it would be like had you been born with a set of genes which really do give you digital difficulties.

Jo C'apek works in RM's Technical Support department and can be reached on 0865-796197.

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All about you!
or
What you say on your membership forms

by Stephen Rochford

For the past twelve months I have been sending out membership renewal forms which ask various questions about you and your computers. Most users return these carefully filled in and here are the results.

Most of our members are in secondary schools; the breakdown for all institutions is shown below.

Institute types

157	Secondary School
57	FE College
25	LEA computer centre
24	Polytechnic or University
14	Limited Company
11	Personal User
10	HE College
8	Secondary Independent School
6	Primary School
4	Sole Trader
4	6th form college
4	Middle School
2	Research & Development Establishment
1	Grammar School
0	Charity/ Non-Profit making institution

I seem to remember that Spencer Instone from SPA actually filled his form in to say that his was a charitable institution but I chose to ignore that!

The computers in use out there are interesting; there are still a lot of 380Zs in use, it seems, but the bulk of machines are 480Z.

Please note that this represents only the machines used by people who have renewed their membership (and filled in the form!) in the past year. New members are not yet asked about the equipment which they use but it seems likely that the great majority are Nimbus users.

1976	480z network
1689	Nimbus PC network station
533	Nimbus PC standalone
313	480z standalone
259	380z
238	BBC/ BBC Master
77	Nimbus AX standalone
65	IBM or other compatible
61	Nimbus VX standalone or netwrok station
55	Nimbus AX network station
46	Others
18	Archimedes
5	Amstrad Wordprocessor
1	Macintosh

What are all these computers used for? Last year's form did not offer many choices but many of you helpfully filled in the "others" section.

309	Wordprocessing
275	Spreadsheets
286	Databases
173	Programming (general)
214	High Level Languages
111	Low Level Languages
30	General Educational or Training
53	Desktop Publishing
29	Art or Graphics
23	Computer Aided Design
14	Administration
28	Computer Aided Learning
27	Communications
18	Control Technology
1	Technical Support
2	Expert Systems
4	Simulations
1	Windows Applications
16	Others

As many of you will know your membership number comprises the date on which you joined followed by a sequence number for that date. This allows me to see which is the most popular month for joining.

Months

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
43	50	67	49	29	31	51	35	34	106	33	36

The figure in October is something of an anomaly! In 1983, when we first started allocating numbers to members, all exisiting members were given a number and most of these were done in October. In fact, most of our members join in the early part of the year; spending the last remnants of the year's money, perhaps.

Now a few comments on how the figures are obtained.

I use dBase III to process the bulk of the membership records. The details about your computers and what you use them for are stored in coded form to save space. For example, the code 10I12J for computers would mean 10 networked 480z and 12 networked Nimbus computers.

I've tried using the string slicing functions in dBASE to extract the information from these codes but it is very slow so instead I wrote a BASIC program to read each record and split up the strings. This takes rather less than 2 minutes to process a file of more than 250 kilobytes (admittedly it is stored on silicon disc).

And finally a plea.

If you send me an official order for your subscription then I will send you an invoice which quotes your membership number.

PLEASE make sure that if that actual piece of paper is not what gets passed for payment, that you clearly state your number on whatever goes to your treasury. There are certain LEAs who send me cheques with no indication of what they are paying for and it can take a lot of time to trace them!

Stephen Rochford is Membership Secretary

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Nimbus Networks and other things!

by Stephen Rochford

Firstly, some comments about network printing. When using SETPC (the IBM mode software) all printout is directed to the device LPT1 which is the standard printer for an IBM PC. When SETPC is started it is possible to include the /L switch to specify that this should actually be sent to the PRN socket, a parallel port or a piconet module. This is fine for a standalone machine but less use on a network. I found that all printer output was simply disappearing! Get round this in one of two ways:

1. In the batch file which loads your software add the following lines:

```
SETPC IBM/C
USE LPT1 /D >NUL
USE LPT1 \\SERVER1\EPSON >NUL
.. now the bit which loads your program ..
.. when the program finishes ..
USE LPT1 /D >NUL
```

The first use statement disconnects any connection which may already have been made. It probably isn't necessary and will give an error message to say so. The >NUL redirects all output messages to the NUL device (they just vanish!).

The second use statement connects LPT1 to the network printer; on an AX server the name will probably be \\SERVERX1\EPSON unless you have changed the name of the server or the printer.

When the program finishes the final use statement disconnects the device LPT1 from the network printer, hopefully leaving it as it was found!

Alternatively, if you have a lot of programs which run in IBM mode and need to print then make one of the public logon programs:

P:\USE.EXE \\SERVER1\EPSON (or other printer name as appropriate)

In this case it is not necessary to try disconnecting LPT1 first; it can't yet have been connected.

If someone is printing a file and the printer jams or runs out of paper or whatever and you want to restart the printout then in theory you just type PRINT RESTART at the server and it restarts.

Trying to get this to happen at the right place on the paper is hard! Instead, type PRINT OFF. This stops printing but does not lose any of the files in the queue (use PRINT KILL if this is what you want). Now sort out your printer, and get it ready to start. Type PRINT RESTART to restart the last file and finally PRINT ON to make it print out.

Notice that if you were printing a short file and your printer has a large buffer then this will probably not work because the file will have been in the printer buffer and not in the server but if it was a short file then it won't take too long to reprint will it!

One of the options is the standard network manager's menu is to delete .BAK files. I also like to get rid of all files with extensions of .TMP (created by Word and Quest if people do not exit properly) and .$* (created by programs like Steed and Wordstar). The following three lines placed in a batch file take care of this:

```
rmtree del m:\*.bak /e/r <yes
rmtree del m:\*.tmp /e/r <yes
rmtree del m:\*.$* /e/r <yes
```

I call this file clean.bat and the pathname for program to run field in the menu just says clean.bat.

You also need to create a file called yes containing the letter y. Type:

```
COPY CON YES
Y
^Z  (The last line means press the CTRL key and Z together, then press Enter.)
```

The purpose of this file is to save you having to wait for RMTREE to plough through the disk each time. When you are making mass deletions you are always asked to confirm them by pressing Y. Putting Y in a file and telling RMTREE to take input from this file saves you the job.

The two switches for RMTREE tell it to delete read only files (it's unlikely that there will be any such but just in case...) and to leave empty sub-directories alone. This is important!

When you create a new user you fill find that Netman puts an autoexec.bat file in the directory containing just the statement CLS. If you delete these (because users who have MENU.EXE as their command processor don't need them) and then run RMTREE DEL without the /E switch then any empty directories will be deleted (without warning!).

I have been getting to grips with Aldus Page Maker recently and am quite pleased with it but there are problems. I have finally understood the value of style sheets in Word and would like to read documents created in Word with a style sheet attached into Page Maker.

The manual seems to suggest that this is possible but I can't make it work and Tech Support say that it doesn't; all you can do is type tags of the for <TITLE> in the text and then define these styles in Page Maker. Has anyone else found a better way of doing things?

Also, is there a bug in the spooler which causes it to lose large files? I have printed out some pages which contain large graphics images to an Apple Laserwriter II NT. The first file will appear succesfully (after about 20 minutes; who said laser printers were fast!) but subsequent pages don't, even though the spooler seems to have accepted them. Any suggestions?

Now some thoughts about network security. Net 2 seems to have been designed with ease of use both for naïve users and network managers in mind. Someone who has never used a computer before can come in, type in a user name and be given an easy to use menu from which they can pick their application. A manager who may well never have worked with a network before, can also easily set things up and keep them working. For all this RM are to be commended. Unfortunately security seems to have been a minor consideration. This is not the place to detail my criticisms of the security but suffice to say that security is poor and seems to have significantly worsened since Net_1.

To look at a completely different example, NLS from Richard Naylor at Methodist College Belfast was designed originally to provide a way in which new users could quickly get to grips with the 480Z network and this it does quite well. It also, however, built in a high level of security. When NLS loads it asks you for a username and, if necessary, a password. These are checked in an *extremely* secure fashion; RM please follow!

Although I've not yet had severe problems with malicious hackers it could happen and it worries me that RM do not seem either to acknowledge the problem or to be doing anything about it. RM say that the problem is inherent in MS-Net and this is not theirs to sort out. The first part is certainly true. Neither MS-DOS nor MS-Net provide for password protection of individual files (as CP/Net on the 480z does) but that does not mean to say that the Network signon section (which seems to be largely RM written?) could not be improved.

Finally, RM claim to now offer virtually everything that the education market needs. Is this true? If it were then surely no-one would be buying anything other than RM kit.

Where do RM "fail"? I must say that their equipment is good but for some things it is perhaps too good!

My school's art department (in common with the others in the borough) has just got an Atari ST. This costs about £600 compared to about £800 for a similarly specified Nimbus (1Mb memory, 1 drive, colour monitor, mouse) and in many ways is not as good. Its graphics, however, are at least as good and the fact that it uses an analogue output allows good colour shading. Again not as good as an AX with VGA graphics but then you can buy most of a class set of ST's for the price of one AX setup. This is not to criticise RM but merely to wonder if they can do something for the "low end" of the market.

RM also seem less good in the field of music support. Although midi interfaces are available for the Nimbus they seem to be very much more expensive than those for the BBC Master and are less well supported (and the ST has midi support built in).

In conclusion, the Nimbus computers are excellent general purpose computers from a company which generally supports its users well. Its recent increase in local sales staff is welcome; having a body to talk to is a great help! I am sure that the company will be still be around (to be moaned at!) for quite a while yet.

Stephen Rochford teaches at George Stephenson Community High, Killingworth, near Newcastle.

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Professional software for education

...from **Peter Bishop Associates**

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Memory

Keith Ashby

"Everyone complains of his memory, and no one complains of his judgment"
Francois, Duc de La Rochefoucauld

It seems a very short time ago when 128K was considered a large amount of memory to have in a PC. In fact, this was all I had in the first Nimbus PC we purchased early in 1985. Coincidentally, the Apple Mackintosh then available had only 128K, much of which was taken up by the user interface. The residual limited memory available for programs decided me against it.

With the advent of programs such as Windows, Lotus 1-2-3, Autocad et al, more memory became a necessity. As memory became more available, programs used more memory. Often the only benefit over their predessors was improved ease of use. With Windows, this was combined with the ability to switch between programs. This is similar in effect to removing a file from a filing cabinet and putting it on the desktop. Work only gets done when you open a file!

In a previous article I mentioned that I intended to change to Desqview, as opposed to Microsoft Windows, to manage files and programs on my VX. One of the reasons I gave at that time was its supposed economy in the use of memory.

So far this has proved to be a rather intangible virtue. Its other, possibly greater, attraction is the ability to run several programs at once. I have not tried Windows 386. However I am told that,while it supports concurrent operation, the size of the programs is more resticted.

Anyone who has worked with large files - document, database, spreadsheet or drawing - will have experienced the irritation of waiting for the computer to complete a routine task. Printing has been possible in the background while you are working on another task, but little else.

With the advent of the 80386 CPU, the possibility of being able to have several tasks running concurrently became a reality. No more the tedium of waiting for the word processor to reformat a long document. Whilst it is doing that, you can move to another another word processor, spreadsheet, database, comms, CAD program, in fact just about anything. When you return to the first task it is finished. At last we have concurrent operation and doing several things at once is easy. In fact while I am writing this I am downloading a large file with Procomm and sorting some records with Dataease.

Quarterdeck is an American company that produces DESQview (they prefer that

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spelling!), which in conjunction with their device driver QEMM.SYS (QEMM-386), allows the user of a machine with a 80386 CPU (e.g. Nimbus VX) to run several programs concurrently.

The main visual difference from Microsoft Windows is that there are no icons. Programs in use are arranged like pages on a desktop. They are activated by clicking the mouse on a visible corner or accessing the switch menu and clicking on the name. Thus, it is possible to see several programs working in different windows simultaneously.

DESQview is easy to configure for a particular program. A program information file, similar to a MS Windows Pif file, contains the parameters for each program.

Points to watch: with some programs which have built in access to expanded memory, you will find all spare memory being captured by the one program, to prevent this set the maximum expanded memory size to a reasonable amount on the "Change a Program" screen. With programs that use both large and small files, it pays to set up a big and a small version, with different parameters for expanded memory. If you have problems setting up a program. Start with Big Dos, which allows you to run under Dos, then fine tune by altering parameters.

Although DESQview is basically easy to install I discovered certain inconsistencies. In fact I feel rather like Thucydides when he wrote the History of the Peloponnesian War.

"With reference to the narrative of events, far from permitting myself to derive it from the first source that came to hand, I did not even trust my own impressions, but it rests partly on what I saw myself, partly on what others saw for me, the accuracy of the report being always tried by the most severe and detailed tests possible. My conclusions have cost me some labour from the want of coincidence between accounts of the same occurrences by different eyewitnesses, arising sometimes from imperfect memory, sometimes from undue partiality for one side or the other ....".

The problem I did not anticipate when using DESQview is the amount of memory it uses for its own operation. In the manual there is great emphasis on the small amount of memory used to run programs. What is not mentioned is that 576K is used for memory mapping. Thus, although I started with 2Mb of memory, I had 512K of Conventional memory and 736K of expanded memory for use, with a largest program size of 496K. This may not sound particularly restrictive. That is, unless you wish to run several small programs with say a couple of large ones, then you find that instead of running in memory, programs are being swapped out to disk, i.e. returned to the filing cabinet.

What really surprised me was the fact that users such as RM technical support and the editor of PCW (who is also an enthusiastic user of DESQview), were unaware that this amount of memory was not available for use. Eventually I was recommended to try Frontline (phone 02564-63344), who assured me that all was in order, and that the missing 576K was used for memory mapping. I suspect that RM Tech support, who were extremely helpful throughout my enquiries, have not used DESQview as rigorously as would be the case in a normal commercial environment. Derek Cohen (*Editor of PCW*) had 6Mb on his machine and hadn't noticed the lack of 576K, until I drew his attention to it.

One has to accept that however DESQview is configured, that only 1.3 Mb of the first 2Mb of installed memory is available to programs. Thereafter you do in fact get one megabyte of usable memory for each extra megabyte installed.

My enquiries concerning the missing memory were spread over a period of three months, during which I had to overcome the usual arguments as to whether the software or hardware was the culprit. RM were convinced at one stage that their 2Mb memory board was to blame, so they kindly sent another to try. This proved to be the same as the first. Further tests that I made with two other programs that test memory and the location of programs confirmed that 1.3Mb of expanded memory was available prior to loading DESQview. I was also able to prove that this was reduced to 756K immediately after loading the DESQview driver QEMM.sys.

I have now added a second 2Mb memory board on top of the first to give a total of 4Mb (you will need to set the switches on the second board if you do this, as described in the RM manual). A check on the memory available confirms that expanded memory available had increased by 2Mb. Of the nominal four megabytes, I have 2768K available as expanded memory plus 550K of conventional memory.

For anyone wishing to install DESQview or otherwise use expanded memory the following information may prove of interest. The rest of you may retain your sanity by reading something else!

RM supply a device driver XEMM.sys to configure EMS, this doesn't work with DESQview. Any memory that you allocate to EMS with Xsetup is not available for DESQview to manage. The driver supplied with DESQview, QEMM.sys, is the only driver necessary.

A search on my Alde CD-Rom produced the full specification for LIM-EMS version 4, from which I quote "Because even the maximum amount (640K bytes) of conventional memory isn't always enough for large application programs, Lotus Development Corporation, Intel Corporation, and Microsoft Corporation

created the Lotus/Intel/Microsoft (LIM) Expanded Memory Specification''.

The full specification is in the Public Domain, I reproduce the following abstracts with acknowledgement to the aforesaid Corporations. The specification is still the copyright and property of Lotus Development Corporation, Intel Corporation, and Microsoft Corporation. If anyone would like the full 400k I will be pleased to send it on receipt of floppy and postage.

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Now there's responsible for you!

The LIM Expanded Memory Specification defines the software interface between the Expanded Memory Manager (EMM) -- a device driver that controls and manages expanded memory -- and application programs that use expanded memory.

What is Expanded Memory?

Expanded memory is memory beyond DOS's 640K-byte limit. The LIM specification supports up to 32M bytes of expanded memory. Because the 8086, 8088, and 80286 (in real mode) microprocessors can physically address only one megabyte of memory, they access expanded memory through a window in their physical address range. The next section explains how this is done.

How Expanded Memory Works

Expanded memory is divided into segments called logical pages. These pages are typically 16K bytes of memory. Your computer accesses logical pages through a physical block of memory called a page frame. The page frame contains multiple physical pages, pages that the microprocessor can address directly. Physical pages are also typically 16K bytes of memory.

This page frame serves as a window into expanded memory. Just as your computer screen is a window into a large spreadsheet, so the page frame is a window into expanded memory.

A logical page of expanded memory can be mapped into (made to appear in) any

one of the physical pages in the page frame. Thus, a read or write to the physical page actually becomes a read or write to the associated logical page. One logical page can be mapped into the page frame for each physical page.

The fundamental concept to understand about expanded memory - get this - is that it's really shadow memory. i.e. DOS doesn't know it exists. As far as DOS is concerned, there is only 1Mb of memory, 0K to 1024K. Each program that it runs concurrently, believes that it has a computer to itself. You determine the size of that computer's memory with DESQview's "Add" or "Change a program" setup program.

Once you have grasped the concept. It's reasonably easy to understand the way expanded memory works. Any 64K chunk (or group of four 16K chunks) of expanded memory can be mapped into an unused 64K area of reserved memory.

Expanded memory to this specification is only used for storing data and swapping programs and graphics screens. There is a further specification devised by AST/ Quadram/Ashton-Tate, Enhanced Expanded Memory Specification (EEMS memory or enhanced-EMS memory). DESQview converts a 386 PC's extended memory into expanded memory and is thus able to use the ability of the 80386 chip's virtual 86 machine architecture to emulate EEMS memory.

GLOSSARY

This glossary defines some of the terms that are used frequently in the LIM-EMS specification. The terms are listed in alphabetical order.

Allocate

To reserve a specified amount of expanded memory pages.

Application Program

An application program is the program you write and your customer uses. Some categories of application software are word processors, database managers, spreadsheet managers, and project managers.

Conventional memory

The memory between 0 and 640K bytes, address range 00000h thru 9FFFFh. This is the memory DOS recognizes. Because application programs let DOS manage their memory, they can use only conventional memory. (RM calls this real memory)

Deallocate

To return previously allocated expanded memory to the memory manager.

Expanded memory

Expanded memory is a special kind of memory that goes beyond DOS's 640K-byte limit. Application programs that adhere to the Lotus/Intel Expanded Memory Specification can use the Expanded Memory Manager (EMM) to manage expanded memory just as other programs use DOS to manage conventional memory. (RM call this EMS) This specification also defines methods for operating systems and environments to access expanded memory through physical pages below 640K bytes. These methods are intended for operating system/environment developers only.

Expanded Memory Manager

A device driver that controls the interface between DOS application programs and expanded memory, in much the same way DOS manages conventional memory. XEMM.SYS, QEMM.SYS are examples.

EMM functions

The EMM functions are a set of standard interfaces to expanded memory. They provide application programs with the operators required to use expanded memory.

Extended memory

The 15M-byte address between 100000h thru FFFFFFh available on an 80286 processor when it is operating in protected virtual address mode. This address space is of little use to those application programs that use DOS. DOS does not recognized memory above 640K bytes; the XENIX operating system uses extended memory.

EMM handle

A value that the EMM assigns to a file or a device. Which is used to identify a block of memory requested by an application program. Previous versions of this specification referred to an EMM handle as a Process ID.

Logical Page

The EMM allocates expanded memory in units (typically 16K bytes) called

logical pages. Each allocated logical page is associated with a particular handle.

Mapping

The process of making a logical page of memory appear at a physical page, thereby making a logical page of memory available for the processor to use. Mapping is done within one of the four physical pages defined by this specification.

Mapping Context

The contents of the mapping registers at a specific instant. This context represents a map state.

Mappable Segment

A 16K-byte region of memory which can have a logical page mapped in it.

Map Registers

The set of registers containing the current mapping context of the EMM hardware.

Page Frame

The collection of four 16k-byte contiguous, physical pages from which an application program accesses expanded memory.

Page Frame Base Address

A page frame base address is the Base Address location (in segment format) of the first byte of the page frame.

Physical page

The range of memory addresses occupied by a single 16k-byte page (see page frame).

Raw Page

The smallest unit of mappable memory that an expanded memory board can supply.

Reserved Memory

The area between 640K and 1Mb reserved for the ROM BIOS and hardware devices - such as display adaptors, network boards, and hard disk controllers.

Resident application program

A resident application program is loaded by DOS, executes, and remains resident in the system after it returns control to DOS. This type of program occupies memory and is usually invoked by the operating system, an application program, or the hardware. Some examples of resident application programs are RAM disk drivers, print spoolers, and "pop-up" desktop programs.

EMM Status code

A code that an EMM function returns which indicates something about the result of running the function. Some status codes may indicate whether the function worked correctly and others may tell you something about the expanded memory hardware or software.

Transient Application Program

A transient application program is loaded by DOS, executes, and doesn't remain in the system after it returns control to DOS. After a transient application program returns control to DOS, the memory it used is available for other programs.

Unmap

To make a logical page inaccessible for reading or writing.

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9 choices per page & up to 40 levels of menu tree and a display of your position in the menu system?

to display help files and indexed help systems from any menu?

to password protect menus?

a smaller resident menu program than you are currently using (<40k)?

fixed, variable or user defined parameters when running programs?

one big menu, tree or a circular menu structure, or several menu trees?

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Making Pages while the sun shines

Robin Davies

If you flick through the pages of the computer magazines, such as *PCW* or *PC Magazine*, you will often see that there are training courses on offer for various software packages. Prices vary, of course, but on the whole the going rate seems to be about £120-£150 per day.

So, if you are new to *PageMaker*, a few hundred should put you right. Don't count on it. I haven't been so foolish as to spend my hard-earned cash on such a course, but daily use of PageMaker tells me that you'd be better off with one of several good books about the program and some patience.

There have been some words written about *PageMaker* in *RM User* and some criticism has been levelled. There's no doubt that V1.x of *PageMaker* running under Windows 1.3 on the Nimbus PC-186 is not perfect.

The biggest problem is primarily a hardware one. On the PC-186 it seems that one is stuck with the monitor supplied. For serious dtp work, a 14" medium-res colour monitor is bad for the eyes. It's a great shame you can't hang a decent 19" high-res monochrome dtp onto the PC-186 as it's quite a nifty machine.

However, I have to say that having spent the last 16 months staring at a 19" *Viking* monitor I hate using a standard size screen.

The advantages are primarily that you can see what you are doing, without all the problems of greeking.

PageMaker is like many powerful programs: you keep finding out new things. Yes, much of it is in the manual, but 90% of what one must do can be achieved by trial and error. This is especially true when setting text on a large screen.

One of the things I've had to do often, recently, has been to swop pages from one *PageMaker* document to another. This is, of course, much the same as moving pages around. It relies on the good old Windows Clipboard.

On a single-sided document, you start with the page in Document One and from the Edit Menu, choose Select All. Then choose CUT (or press SHIFT-DELETE). If you wish to copy a page, choose COPY (or CTRL-INSERT). The computer will chunter away, sending the page (which is an object or group of objects) to the Clipboard.

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You can then SHIFT-INSERT into a new page or close the document, open another/new one and SHIFT-INSERT into any page of the next document.

Now, the important thing here is the use of the Clipboard. Have you every tried drawing a number of small boxes for something like a form? I know one reader who has! Yes, you're right, all the boxes seem just a little different, despite trying hard and putting loads of ruler guides everywhere. What do you mean, you don't know what ruler guides are! More of that later!

Anyway, back to our little boxes problem. One effective answer is to draw one of the size you require and then use the Clipboard to duplicate the box as often as you require. This is done by clicking on the box to select it (the famous Aldus handles appear) and then choosing COPY from the Edit Menu. After Aldus has done copying (watch for the hourglass icon/re-appearance of the arrow), then choose INSERT from the Edit Menu - or press SHIFT-INSERT. Actually, just pressing the INSERT key seems to work just as well on the 102-key keyboard. *PageMaker* will then dump a replica of your box in the middle of the page and you can place it where you will.

I've put an example of what I mean below. It's a little more complicated that just the straight box as I had to drop some filled boxes behind each box, but it's the same technique. Use of ruler guides was essential here, as was working at 200% page size (SHIFT-Right Mouse Button).

The Open College of the Black Country

SUMMER PROGRAMME

1989

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One of the great joys of *PageMaker* is its love of increasing the size of the files as you work with them. I knew nothing about this in the early days until it was pointed out to me by a typesetter who was setting the early A5 RM Users. He pointed me in the direction of that very useful command SAVE AS.

If you have been working on a file, do a SAVE AS when you have finished - either for that session or completely. If you check disk file size before and after doing that, you will notice a difference - sometimes nearly a 50% reduction in size is achieved. This is because as you work with *PageMaker* it pulls in the hyphenation dictionary and as you just SAVE, you're saving chunks of that with your work. Using SAVE AS gets rid of that and cuts down the size of your file.

I have convinced myself that this also can have an effect upon printing, especially when printing complex pages with graphics.

Printing files from *PageMaker* can produce in the user emotions ranging from pleasure to extreme irritation! These responses are directly linked to the complexity of the page that you may have created. Simple pages, largely of text, print quite quickly. Complex pages, made up of text and graphics, can take ages. The type of graphic also affects printing times.

Bit-mapped graphics created by painting programs such as *Windows Paint, PC Paintbrush* and scanning can be slow to print. By slow, we mean up to 30 or more minutes. Vector or object graphics, such as those produced by *Designer, Corel Draw* and *Arts & Letters* will print more quickly. If your text is a mixture of styles, then this slows down printing.

Equally important are the capabilities of your printer. Laser printers vary in their speed quite considerably, especially if the amount of memory in the printer is restricted or, in the case of Postscript printers, the Postscript board in the printer is not the latest. The early Applewriters were really slow compared with more recent machines.

As an aside, I see little virtue in buying a non-postscript printer. The cheaper ones, which emulate *Hewlett-Packard Laserjet II* machines, frequently come with woefully inadequate amounts of memory, restricted numbers of fonts, etc., etc. By the time one has upgraded the machine to get adequate performance, it is possible to spend as much as you would need to buy a postscipt laser. *QMS-PS810* and *Qume Scripten* machines are available at around £2900 - £3000.

Watch out for what sort of engine your laser printer uses. By far the most common is the *Canon* engine (that's the inside). The toner cartridges for those are readily available at competitive prices and can be effectively recharged by a number of companies. New catridges cost about £75 and recharges about £50 or a little less.

All these catridges are made by *Canon*, even if they say *Hewlett-Packard* or *INMAC*. The *Qume Scripten* uses a *Ricoh* engine, which is less common.

Even with 2 or 3Mbytes of memory in your printer, a complex page can take a long time to print and you must sometimes sit and nurse through the printing of a page. By this I mean watch out for a *PageMaker* dialog box which tells you that *PageMaker* can't write to LPT1:. When that appears, you must click on the Retry box to keep the printing process going. I have found that with my setup, failing to do this almost straight away leads to failure of the print job.

On occasions, print jobs seem to fail for no apparent reason. This only happens when printing complex pages. There are, of course, reasons, but it's difficult to spot them at first. One is lack of memory; another seems to be connected with not using SAVE AS and a third I mention in the paragraph above. On rare occasions I have found it necessary to power-down and start all over again.

As a rule-of-thumb I would say that scanned images are the worst. If you watch your hard disk indicator light during such a print job, you will notice it flashing on and off constantly.

Scanning images and photographs is all part of dtp, but fraught with problems and not all just a question of bashing something through a scanner. However, more of that in the next issue.

QUESTION MARK

Sheila Maynard

QUESTION MARK is a package which aims to assist in the management of tests, examinations and questionnaires. It is available in several versions, one of which runs on the Nimbus and another on true PC compatibles.

It contains two separate programs, one is used to enter the questions and design the mark scheme, the other is used by the student to run the test and answer the questions. This system has the advantage that the tests can not be corrupted accidentally, or deliberately. There is also a password system which can be used to limit access to any particular set of questions.

Several types of question are available:

- multiple choice, one answer chosen from many including Yes/No answers,
- those requiring numeric answers,
- those requiring a single word answer, including filling in a blank in the actual text of the question,
- free format, in which the answer can be one line of text,
- ranking, putting a number of answers in order,
- multiple select, choosing a number of answers (including none) from a given set.

Tests can be arranged in various ways:

- a time limit can be placed on the test, any time from 1 minute to 3 hours is possible,
- students may pass some questions and then return to them later,
- students can be permitted to review their answers and change them if they wish,
- the tutor can permit the student to ESCape from the test or prevent it,
- messages can be incorporated to respond to differing degrees of success,
- students can branch to a selected test on the result of a previous one,
- marks can be assigned to each question or not used if desired,
- screens of information can be incorporated with no associated question.

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be displayed on screen, saved on disk or sent to a printer. Several forms of report are available, if they are saved on disk they can then be word processed into any desired format:

- a full listing of each student's answers with the marks allocated,
- a listing of the student's answers alone,
- a table of the marks for each student showing the separate questions the totals,
- a summary table giving the total marks for each student,
- a detailed analysis of the student's answer for each question,
- a corrected test paper suitable for returning to the student.

Tests can be printed for use as written test papers. Questions can be copied between tests enabling the creation of banks of questions for future use.

In my opinion the software runs very smoothly indeed and would make the management of such tests much easier. However the content and decisions on the relative worth of answers for marking purposes are still the task of the tutor. The tutor still has to produce the actual set of answers for the multiple choice question, for example. This package is a 'shell' which requires filling with substance, then it can lift the tedious administrative tasks from the tutor to a large extent.

If you are interested and think this package may solve some of your problems I recommend that you send for details and the free demonstration disk. The address is below:

John Kleeman, 12 Heath Villas, Vale of Health, London, NW3 1AW
Telephone: 01 - 794 9411

Sheila Maynard is Software Librarian of the User Group, a part-time teacher of computing and a free-lance programmer/software versioner.

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Examples of reports available from QUESTION MARK

1. Full listing of set of answers 1 in file "Geog". Student - "joe"

Question file "Geog" (last edited at 13:58 28.07.88).
Title : Geography test. 7 questions asked.

Test occurred at 19:47 28.08.89 and took 2 mins,23 secs.
Answers marked by computer.

Questions
1 : answer is "Rome"
Mark : 5
2 : answer is A B D E G I J chosen
Mark : 8
3 : answer is ranking : B A D E C
Mark : 0
4 : answer is "China"
Mark : 5
5 : answer is 50
Mark : 5
6 : answer is "New Zealand"
Mark : 5
7 : answer is choice 6 (Bangkok)
Mark : 5

33
Total score is 86% (33 in a range from -10 to 40 points).

==========

2. Set of answers 1 in file "Geog". Student - "joe"

Rome
A B D E G I J
B A D E C
China
50
New Zealand
6

==========

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3. Report on marks of question file "Geog" in answer file "Geog".

Minimum total score is -10. Maximum total score is 40.

Student joe
File no 1
Date 28.08.89
Time 19:47

Questions
1 : 5
2 : 8
3 : 0
4 : 5
5 : 5
6 : 5
7 : 5

Total 33
Percent 86%

==========

4. Report on total marks in answer file "Geog".

Question file "Geog" :
Minimum total score is -10. Maximum total score is 40.

Student joe
Date 28.08.89
Time 19:47

Total 33
Percent 86%

==========

5. Analysis of all questions of question file "Geog" in answer file "Geog".

Question number 1 :

What is the capital of Italy ?

Answers : 1 Passes : 0

Answers (in capital letters) are :
ROME Times answered : 1 (100%)

Question number 2 :

Select those of the following countries that are in the EEC (European Economic Community).

Answers : 1 Passes : 0

Analysis of number selecting each choice :

Switzerland	Yes :	1 (100%)	No :	0
Norway	Yes :	1 (100%)	No :	0
Japan	Yes :	0	No :	1 (100%)
France	Yes :	1 (100%)	No :	0
Italy	Yes :	1 (100%)	No :	0
East Germany	Yes :	0	No :	1 (100%)
Greece	Yes :	1 (100%)	No :	0
Turkey	Yes :	0	No :	1 (100%)
Portugal	Yes :	1 (100%)	No :	0
Ireland	Yes :	1 (100%)	No :	0
Iceland	Yes :	0	No :	1 (100%)
Rumania	Yes :	0	No :	1 (100%)

Question number 3 :

Rank the following countries in descending order of geographical size (largest first).

Answers : 1 Passes : 0

China	Times first : 0	Points : 4
Russia	Times first : 1 (100%)	Points : 5
England	Times first : 0	Points : 1
France	Times first : 0	Points : 3
Belgium	Times first : 0	Points : 2

(Points are on basis of 5 for first, 4 for second...)

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Question number 4 :

---- is the most populous country in the world.

Answers : 1 Passes : 0

Answers (in original letter case) are :
China Times answered : 1 (100%)

Question number 5 :

How many states are there in the United States of America ?

Answers : 1 Passes : 0

Numbers answered are :
50 Times answered : 1 (100%)

Question number 6 :

Name any country (except for the USA) which calls its national currency the dollar.

Answers : 1 Passes : 0

Analysis not performed
Listing of answers available in Answers report

Question number 7 :

One, and one only, of these cities is a capital city. Which one ?

Answers : 1 Passes : 0

Analysis of number choosing answers :
Bangkok 1 (100%)

==========

6. Corrected set of answers 1 in file "Geog". Student - "joe"

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Title : Geography test. 7 questions asked.

Test occurred at 19:47 28.08.89 and took 2 mins,23 secs.
Answers marked by computer.

Question number 1 :

What is the capital of Italy ?

Student answer : Rome
Correct.

Score : 5 out of 5

Question number 2 :

Select those of the following countries that are in the EEC (European Economic Community).

Student answer : Switzerland Norway France
Italy Greece Portugal
Ireland

Correct answer : France Italy Greece
Portugal Ireland

Score : 8 out of 10

Question number 3 :

Rank the following countries in descending order of geographical size (largest first).

A China
B Russia
C England
D France
E Belgium

Student answer : B A D E C
Correct answer : B A D C E
Score : 0 out of 5

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Microsoft WORD - Version 5

Ken Maynard

MS-WORD has now advanced to version 5 like, it seems, every other major word processing package. This revision is worth getting, unlike WORD 4 which was not a significant step on from WORD 3. New versions of such products are always bigger than previous ones and, because they contain additional facilities, more difficult to learn completely. The *old* versions carry on working for ever and need not be replaced unless the extra features offered by the latest are felt to be essential.

WORD 2 is the earliest edition anyone is likely to be using. It was modified by RM to run without the IBM emulator on the first Nimbus PCs and represented excellent value for money as a full-featured, 'professional' word processor. It boasts style sheets, a glossary facility, footnote handling, automatic hyphenation and a selling checker. Its more obvious strengths are the ability to utilise all the features of any printer to which it is attached and to display most of the effects accurately on the screen.

Every such package has its limitations and anyone who uses one a lot soon builds up a 'wish list'. Version 3 fulfilled most WORD 2 users' hopes. Again it was available from RM in Nimbus PC format, and is the version distributed in the present network bundle. Unfortunately, its size makes it inconvenient to use on a single disk-drive machine because it really requires more than one disk for itself and, of course, there is the text that is being written to consider. Two drives, or one drive plus the half megabyte of silicon available if one has purchased a megabyte add-on board is fine, although some planning has to go into dividing the utilities sensibly between floppy and RAM disk. Obviously, once this has been done satisfactorily, a simple batch file can be written to do the job automatically.

WORD 3 added a really usable thesaurus, an excellent outliner, handled tabulation in a conventional manner, enabled sorting, column selection, automatic index and contents list construction, side-by-side paragraphs and various other improvements.

WORD 4 added some sophisticated items like macros, line drawing and a document retrieval facility.

WORD 5 adds to all the previous features a way of incorporating graphics with the text, automatic pagination, accurate page layout, document preview, automatic backup and a properly incorporated spelling checker.

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To my mind, the most long-awaited new feature is the automatic displaying of page breaks. This would not have been such a major item had it not been sadly, inexplicably, lacking from previous versions.

Versions 4 and 5 need the IBM emulator to run on the Nimbus PC but are very happy on the AX, VX or other IBM-compatible Nimbuses.

Ken Maynard is Deputy Head at Nobel School, Stevenage

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Ideas for future articles

Ken Maynard

Network security. Proofing against 'intellectual' vandalism, is known to concern some network managers. RM appears to have put ease-of-use highest in its design specification for NET_2, which pleases many of us but by no means all: security would be paramount for some. Please give us your thoughts for an ideal network interface or your solutions to any specific security matters that have caused you problems. In particular, are there any simple precautions that every new network manager should take, besides altering the default password?

LMS - Local Management of Schools. This is, perforce, of growing concern to all of us in state education. RM has addressed the matter in a nicely designed leaflet but has any User Group member firsthand experience of some of the key features and ways that computers really do help? It is possible that some public schools have already instituted administative schemes based on spreadsheets, financial or database packages. Please share your experiences with all of us.

Controlled access: What is the best way to enable any pupil in a maths lesson to type the ID 'SMILE' to get the ILECC SMILE programs on a Nimbus network but NOT be able to get them when the teacher has not given permission? For example, the teacher could use a personal password to 'switch them on' by, say, calling up a program from his or her own area that renames the appropriate batch file to that referred to on the pupils' menu. Or, the pupils' menu could look for the batch file on the server silicon disk, and teacher's utility would copy it there and remove it afterwards. Your thoughts please.

Small businesses. Has someone out there set up a computer to aid them in running their business? What software has proved most useful? What files have proved indispensible? Many people are moving into this phase and some schools are interested in using computers for use in conjunction with mini-enterprises.

The classroom. There have been relatively few detailed accounts of the use of specific packages in the classroom in the pages of RM_User. As more teachers are being called upon to employ computers in their teaching as IT Across the Curriculum becomes a reality so more help is required. Can someone find time to write a short account of a package they have found to be useful with pupils? Surely somebody makes regular use of Oxfordshire's AVENTURE, or ILECC's Simtex, BECC's Collage or Newman College's Front Page Extra? Please share your findings.

Ken Maynard is Secretary of the User Group.

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Micro-Mart

Wanted

Mr Marshall from Brighton College Junior School, Walpole Lodge, Walpole Road, Brighton BN2 2AL, tel **0273-606845**, wants to buy a 480Z.

Mr O'Sullivan from Church Cottage, Church Lane, Earsted, Kent ME14 MEE, tel **0622-36241** wants to buy an MD2 disc drive for the 480Z.

Mr. Nash from Durand Primary School, Hachford Road, London SW9 wants a 480Z with disc drive and monitor.

Mr Slaney, at 31, Partridge Close, Ryton Green, Washington, NE38 0ES (**091-415-3150**) wants a PC-186 PC1 with colour monitor and an Epson or compatible printer.

For Sale:

13 Station 480Z Network with double diskdrive server, winchester hard disk, separate double disk drive and lots of software. Contact **Paul Bramwell** at Samuel Ward School, Chalkstone Way, Haverhill, Suffolk. Tel: **0440-61511** or at home on **0440-707522**

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Writing for the Magazine

Please do! All contributions are welcomed and most are published, subject to editorial requirements. Your contributions should be sent on disk from any RM machine and it may be helpful in some cases to include a printout of the article. All disks are eventually returned!

One of the greatest needs is for suitable illustrations, but these need to be disk files which can be transferred into *Aldus PageMaker*. *Windows Draw!* pictures are the best, but *PC Paintbrush* pictures are acceptable. If you want to send in graphics from such as PAINT*SPA* or NEW*SPA*PER, please print out with a new ribbon so that there is some chance of making camera-ready copy. Good black & white photos are great.

For those who would really like to help the Editor and are using a Nimbus and either *Microsoft Word* or *Windows Write!*, please format your text in 10 point Times Roman. When using *MS Word* you will need to select a postscript printer (Apple laser) from the Print Options menu. Do **not** use a style sheet (for various reasons!)

If you are using, say, *WordStar* on a 380Z or 480Z (*and why not*?) then do it as a non-document file. I cannot read BBC disks , but you may be able to email me on 72:MAG 90380. PageMaker 3 files on Mac disks can be read.

Don't be put off by any apparent technical depths in material you read in the Magazine. We *eagerly* welcome simple, straightforward stuff from novices for novices. There is no minimum length, either!

If you've an idea, but are uncertain as to its usefulness, please drop me a line or ring me.

We are very keen on any material concerning BBCBASIC-86 and the running of BBC programs on the NIMBUS PC-186.

Articles/letters about your experiences with RM, their kit and service are welcome, as are the same about other vendors of hardware or software for the RM range.

We will now pay you £5/page of text. Sorry, but for graphics, listings, etc., nothing. All payments are at the Editor's discretion.

Deadline for the next Magazine is October 6th 1989

Membership Form

(Please use capitals)

Mr/Mrs/Miss/Ms/Dr _____

Initials _____

Surname _____

Company/Institution _____

Address _____

_____

_____

Postcode _____

Area of Interest _____

_____

Is this a renewal? Yes/No *(Please cross out as appropiate)*

Membership Fee is £15 per annum (£20 for overseas members)

Personal Cheque
Company Cheque
Company Order
LEA Order
Institution Order for £15/20 is enclosed

(please delete as appropiate)

Cheques should be made payable to **RMUG** and sent to:

The Membership Secretary, RM User Group,
George Stephenson Community High School,
Southgate, Killingworth,
Newcastle.
NE12 0SA

Signed _____

1989

Please photocopy this form

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TIMESTEP PC186 SAT

The PC186 SAT is one of the low cost Timestep *MULTISAT* range of weather satellite equipment. It will run on a standard Research Machines PC186 with 1Mb of memory and a serial Piconet card.

The system can receive Meteosat and NOAA with an optional NOAA receiver and antenna. Meteosat transmits picture as frequently as every 4 minutes. High quality pictures are displayed on the monochrome monitor in 320x250 pixel resolution with 16 grey levels. The colour monitor normally supplied with PC186's can be used simultaneously with the monochrome monitor.

The images are stored on disc in full 800x800 pixel resolution together with all 256 grey levels. You can roam around in a real time zoom window to see all the detail transmitted. A vertical and horizontal transect facility enables you to look and measure graphically temperature levels with infrared images and light intensity from visible images.

Animation is available from Meteosat. This stunning facility is best shown when watching storms develop and move across the Earths surface. 16 images can be automatically animated. All that is required is make a unique KEY disc, once set for a particular area such as the UK and Atlantic, the system will continue to run automatically. Even switching the computer off does not stop the animation sequence, as soon as the power returns the program will automatically continue where it left off. More importantly, unlike other systems it shows the last 16 frames continuously, you don't have to ask it to show you, it's on the screen all the time. Also, unlike other systems when all 16 frames have been received it doesn't just stop, it carries on and replaces the earliest frame with the latest one. In other words every time you pass by the PC186 SAT you will see the last 16 frames, you will always be up to date with the weather ! Animation can also be performed in 30 smaller frames.

Pictures can be saved in PC Paintbrush, PaintSPA and NewSPA format to adjust false colour, add annotation and integrate into desk top publishing.

Features

320x250 pixel display in 16 grey levels

Animation of 16 or 30 frames

Pictures all through the day from Meteosat

Vertical and horizontal transect

Full satellite resolution stored on disc

PC Paintbrush, PaintSPA and NewSPA

NOAA polar option available

Standard hardware provided

1.0M Dish antenna
GaAs FET Antenna pre-amp
20M Yagi cable
Software and demonstration discs

Multisat interface
Multisat GOES/Meteosat receiver
PC186 interface card
Comprehensive manual

Price £599.00

Options
NOAA receiver,antenna and 50M cable £225.00
Grey scale monitor £115.00

VAT at 15% Carriage £7.50 per item.

Timestep Weather Systems
Wickhambrook Newmarket CB8 8QA England
Tel. 0440 820040 Fax. 0440 820281 Telex 817015 TIMEST G

TIMESTEP PC286 SAT

The PC286 SAT is one of the low cost Timestep *MULTISAT* range of weather satellite equipment. It will run on a standard Research Machines PC286. Better resolution is available if the RM Colour Enhancement card is fitted.

The system can receive Meteosat and NOAA with an optional NOAA receiver and antenna. Meteosat transmits picture as frequently as every 4 minutes. High quality pictures are displayed on the standard monitor supplied in 640x480 pixel resolution with 16 grey levels or 640x480 with 64 greys or 256 colours with the RM colour card.

The images are stored on disc in full 800x800 pixel resolution together with all 256 grey levels. You can roam around in a real time zoom window to see all the detail transmitted. A vertical and horizontal transect facility with X-Y coordinates and intensity value enables you to look and measure graphically temperature levels with infrared images and light intensity from visible images.

Animation is available from Meteosat. This stunning facility is best shown when watching storms develop and move across the Earths surface. 16 images can be automatically animated. More importantly, unlike other systems it shows the last 16 frames continuously, you don't have to ask it to show you, it's on the screen all the time. Also, unlike other systems when all 16 frames have been received it doesn't just stop, it carries on and replaces the earliest frame with the latest one. In other words every time you pass by the PC286 SAT you will see the last 16 frames.

Pictures can be saved in PC Paintbrush and VGA Paint format to adjust false colour, add annotation and integrate into desk top publishing.

Features

640x480 in 256 colours

Animation of 16 frames

Pictures all through the day from Meteosat

Vertical and horizontal transect

Full satellite resolution stored on disc

PC Paintbrush and VGA Paint compatible

NOAA polar option available

Standard hardware provided

1.0M Dish antenna
GaAs FET Antenna pre-amp
20M Yagi cable
Comprehensive manual

Multisat interface
Multisat GOES/Meteosat receiver
Software and demonstration discs

Price £599.00

Options

NOAA receiver,antenna and 50M cable £225.0

Timestep Weather Systems
Wickhambrook Newmarket CB8 8QA England
Tel. 0440 820040 Fax. 0440 820281 Telex 817015 TIMEST G

NIMBUS PC186 VIDEO ADAPTOR

At last an easy to use video adaptor for the Research Machines Nimbus PC186. Simply connect the small box between the computer and computer monitor and plug in your video recorder or large screen monitor or television. Every thing that appears on the computer screen will also appear on the video recorder without any extra software. This is ideal for compiling long animation sequences from Chris Jennings Art and Time program.

Allows any video recorder to record in colour from the Nimbus PC186.

Large screen monitors and televisions can be used.

Works with every known video recorder, television and projection system.

No software needed, what you see on the computer screen is what you see from the video recorder.

Colour composite video output for direct connection to video recorders or large screen monitors.

UHF output (Ch 36) for connection to standard televisions and to allow the images to be fed into the schools distribution system so that all television users may monitor the computers progress.

No external power supply needed.

Redefined colour palette to reduce "colour rippling".

There are two minor differences between the computer screen and the video recording that in practice are not noticeable. The screen on the video recorder output is offset to the left instead of centred, all information is visible though. Saturated colours may produce colour rippling on video recorders, this appears as though there was a stream of water passing through bright reds and blues. To help reduce this unwanted effect the colour palette has been subtly redefined replacing these colours with slightly lighter shades.

Available ex stock at £49.95 plus £2.50 carriage and VAT extra at 15%.

Timestep Education
Wickhambrook Newmarket England CB8 8QA
Tel. 0440 820040 FAX. 0440 820281 Telex 817015 TIMEST G

TIMESTEP VGA Paint

VGA Paint is the ultimate in paint programs for VGA computers. Instead of a striped down high cost package this is genuine high profile product at a low cost price. Proof of this is that VGA Paint actually retails at a higher price in the USA. Timestep's considerable negotiation skills and buying power enable this low price to be offered.

VGA Paint is the standard that all other packages aspire to. It is interesting to note that at Which Computer 1989 all VGA monitor manufactures were using the VGA Paint demo to show how good their monitors are !

Features

VGA 640x400 256 colour mode for RM PC286

VGA 640x480 256 colour mode for RM PC286 with colour enhancement board

VGA 800x600 256 colour mode for Timestep PCSAT+

IBM VGA 360x480 256 colour mode on a standard IBM PS/2. Unique use of the IBM VGA chip enables this undocumented mode ! No hardware mods needed to get 3 timest the number of pixels you have seen before on your PS/2

IBM 320x200 in 256 colours (but why bother with the mode above working much better ?)

VGA 1024x768 16 colour mode

Pop-Up English speaking menus, no icons to confuse you

Full screen editing

Image rotation

Real time dynamic zoom

Global contrast, brightness and colour controls (find this on any other package !)

Automatic colour graduation and palette generation, anti-aliasing (smooth and fudge)

Support for just about every graphics and laser printer and internal grey scale controls

Screen capture mode from other programs

Air brush that actually works like an airbrush

X-Y coordinate readout

Unbelievable detailed manual

Screen utility that converts any screen mode to any other screen mode

And much, much more !

Price £99.95 plus £2.50 carriage and VAT at 15%

Timestep Education
Wickhambrook Newmarket CB8 8QA England
Tel. 0440 820040 Fax. 0440 820281 Telex 817015 TIMEST G

OK ..... we admit it, the caption is a bit over the top, but hands up all of you who have had dealings with RML at Oxford. Well, those of you with your hands up will know what nice people they are. MSM knows what nice people they are because we have dealings with them every day. So, who is MSM? We are Micro Systems Maintenance Ltd., RML's authorised national service agents. Our staff have been associated with RML since their earliest days, and whilst modestly forbids us to say that we know them intimately, we will readily admit to being intimate with the insides of those clever machines that they make. If your 380Z, 480Z or Nimbus needs attention, we'll fix it for you, and we won't charge you the earth. If you are responsible for keeping networks up and running, talk to us about a maintenance contract; our quotation will pleasantly surprise your financial manager.

We are the only company authortized to do warranty work, and we also carry out upgrades and modifications, either on-site or at one of our regional service centres.

Contact us at:

MSM Service Desk
c/o Research Machines Ltd.
Mill Street
Oxford
OX2 0BW
Telephone (0865) 249866

(Please mention R M User)
We'll send you an information pack and/or a quotation

MICRO SYSTEM MAINTENANCE LTD., WESTLEA, SWINDON, WILTS. TEL: 0793- 616888